THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

NNPT LLC,	§	
	§	
v.	§	CASE NO. 2:14-CV-677–JRG-RSP
	§	
HUAWEI INVESTMENT & HOLDING CO., et al.	§	
	§	
	§	

CLAIM CONSTRUCTION
MEMORANDUM AND ORDER

On August 5, 2015, the Court held a hearing to determine the proper construction of disputed claim terms in United States Patents No. 6,130,877; 6,578,086; 6,697,325; 7,664,123; and 8,607,323. After considering the arguments made by the parties at the hearing and in the parties' claim construction briefing (Dkt. Nos. 69, 72, and 73),[1] the Court issues this Claim Construction Memorandum and Order.

[1] Citations to documents (such as the parties' briefs and exhibits) in this Claim Construction Memorandum and Order refer to the page numbers of the original documents rather than the page numbers assigned by the Court's electronic docket unless otherwise indicated.

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I. BACKGROUND

Plaintiff brings suit alleging infringement of United States Patents No. 6,130,877 ("the '877 Patent"), 6,578,086 ("the '086 Patent"), 6,697,325 ("the '325 Patent"), 7,664,123 ("the '123 Patent") and 8,607,323 ("the '323 Patent") (collectively, "the patents-in-suit"). In general, the patents-in-suit relate to data communication.

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with preliminary constructions for the disputed terms with the aim of focusing the parties' arguments and facilitating discussion as to those terms. Those preliminary constructions are set forth below within the discussion for each term.

II. LEGAL PRINCIPLES

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *See id.* at 1313; *see also C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312–13; *accord Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term's context in the asserted claim can be very instructive. *Id.* Other asserted or unasserted claims can aid in determining the claim's meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term's meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

"[C]laims 'must be read in view of the specification, of which they are a part.'" *Id.* at 1315 (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). "[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *accord Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor's lexicography governs. *Id.* The specification may also resolve the meaning of ambiguous claim terms "where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone." *Teleflex*, 299 F.3d at 1325. But, "[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims." *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting

Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *accord Phillips*, 415 F.3d at 1323.

The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc., v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) ("As in the case of the specification, a patent applicant may define a term in prosecuting a patent."). "[T]he prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance." *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985).

Although extrinsic evidence can be useful, it is "less significant than the intrinsic record in determining the legally operative meaning of claim language." *Phillips*, 415 F.3d at 1317 (citations and internal quotation marks omitted). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert's conclusory, unsupported assertions as to a term's definition are entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id.*

The Supreme Court of the United States has "read [35 U.S.C.] § 112, ¶ 2 to require that a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus, Inc. v. Biosig*

Instruments, Inc., 134 S.Ct. 2120, 2129 (2014). "A determination of claim indefiniteness is a legal conclusion that is drawn from the court's performance of its duty as the construer of patent claims." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) (citations and internal quotation marks omitted), *abrogated on other grounds by Nautilus*, 134 S.Ct. 2120.

III. THE PARTIES' STIPULATED TERMS

The parties reached agreement on constructions for certain terms, as stated in their May 1, 2015 Joint Claim Construction and Prehearing Statement Pursuant to Local Patent Rule 4–3 (Dkt. No. 58 at 2) and their July 6, 2015 Joint Claim Construction Chart Pursuant to Local Rule 4–5(d) (Dkt. No. 74 at 9 & 11). The parties' agreements are set forth in Appendix A to the present Claim Construction Memorandum and Order.

IV. DISPUTED TERMS IN U.S. PATENT NO. 6,130,877

The '877 Patent, titled "Rate Controlled Broadcast for Activation of Entities in Large Scale Data Networks," issued on October 10, 2000, and bears a filing date of May 23, 1997. The Abstract of the '877 Patent states:

> A broadcast methodology for activation of virtual circuits in a large scale data network at a controlled rate is disclosed. The method includes, at a node within the network, alternate steps of broadcasting activation signals for a predetermined number of the of [*sic*] virtual circuits and delaying a time interval. The alternate steps are repeated until all the activation signals have been broadcast.

A. "node(s)"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "connection point in a data network"	"a connection point in the data communications network, comprising at least a processor for effecting functions within the network"

Dkt. No. 74, Ex. A at 4. The parties submit that this term appears in Claim 1 of the '877 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "a data communications network connection point that includes processing capability."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court therefore hereby construes **"node"** to mean **"a data communications network connection point that includes processing capability."**

V. DISPUTED TERMS IN U.S. PATENT NO. 6,578,086

The '086 Patent, titled "Dynamically Manage the Topology of a Data Network," issued on June 10, 2003, and bears a filing date of September 27, 1999. The Abstract of the '086 Patent states:

> A network device is presented comprising a filtering database, a link state database and a controller, coupled to each of the filtering database and the link state database, to process data received from remote network devices based, at least in part, on distance vector information stored in the filtering database, link state information stored in the link state database, and content of the received data.

A. "controller"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "entity that controls one or more functions"	"a processing device"

Dkt. No. 74, Ex. A at 4–5. The parties submit that this term appears in Claim 13 of the '086 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "Plain meaning (Expressly reject Defendants' argument requiring a processor)."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court therefore hereby expressly rejects Defendants' proposal of requiring a "processing device" and hereby construes **"controller"** to have its **plain meaning**.

B. "dynamically manage"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "manage based on new information"	"monitor and update upon receipt of new information"

Dkt. No. 74, Ex. A at 5. The parties submit that this term appears in Claim 13 of the '086 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "manage based on new information."

(1) The Parties' Positions

Plaintiff cites extrinsic dictionary definitions as well as the opinion of its expert. Dkt. No. 69 at 9. Plaintiff also argues that Defendants' proposed construction "is unambiguously contradicted by the specification of the '086 patent." *Id.* at 10.

> More specifically, Defendants' proposed construction introduces a temporal factor to the construction of "dynamically manage," *viz.* that it occur "upon receipt of new information" by the controller. According to the specification of the '086 patent, however, the controller still "dynamically manage[s]" the network *even if it does not receive any new information from a node*. See col. 10, ll. 31–43 (describing how the controller updates the records in the link state data base if it *does not* receive information from a particular node).

Id.

Defendants respond that "Plaintiff's construction is overly broad in that the management based on new information would not be based upon information actually received and acted upon by the controller, but rather would allow for dynamic management of a network topology even when new information exists on a component detached from the controller." Dkt. No. 72 at 8–9.

Plaintiff replies that "the failure to receive an acknowledgement does constitute 'new information' that can be used to update the database." Dkt. No. 73 at 2.

At the August 5, 2015 hearing, Defendants reiterated that the stated objective of the '086 Patent is to improve convergence time, and Defendants argued that the figures and written description contain no suggestion of any delay between the new information and the updating. Plaintiff responded that Figure 6, for example, illustrates that new information can be derived

from *not* receiving something. Nonetheless, Plaintiff was amenable to using the word "update" instead of the word "manage" in the construction.

(2) Analysis

The Background section of the '086 Patent states that "convergence time" is "the time required by network core devices to identify optimal routing paths (or, re-routing in the event of failure) between network elements." '086 Patent at 1:33–37. The specification discloses an objective of improving convergence time without harming reliability:

> Thus, it would be desirable to provide an innovative solution that improves convergence time while providing for load sharing and other advanced network services, without negatively affecting network reliability attributes. More specifically, a method and apparatus for dynamically managing the topology of a data network that is unencumbered by the inherent deficiencies and limitations commonly associated with the spanning tree protocol and other prior art solutions.
>
> * * *
>
> Those skilled in the art will appreciate, from the description to follow, that the introduction of the innovative link state protocol database along with the link state protocol extensions into the layer 2 of the network facilitate faster convergence times and the introduction of advanced network services heretofore not accessible within layer 2 of the data network. Having introduced the operating environment of the present invention with reference to FIG. 1, an example network device incorporating the teachings of the present invention is present in accordance with FIG. 2.
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> * * *
>
> In addition, link state protocol database 207 and its associated link state protocol serve to decrease the convergence time of layer 2 of the data network (as compared to distance vector management), thereby improving the perceived manageability and responsiveness.

Id. at 2:55–63, 4:65–5:7 & 5:33–37. The specification also discloses a link state protocol used to update a filtering database:

> Thus, in accordance with one aspect of the present invention, to be described more fully below, controller 206 updates the information contained within filtering database 208 based on information received in the link state protocol data

> units. That is, in accordance with one embodiment of the present invention, controller 206 translates a link state protocol data unit into routing cost and port state information commonly stored in filtering database 208, while translating BPDUs [(bridge protocol data units)] into link state information commonly stored in link state protocol database 207, thereby ensuring the cross compatibility of network device 200.
>
> * * *
>
> The link state update (01) LSPDU [(link state protocol data unit)] 300 is utilized by appropriately configured network devices (e.g., network device 200) to indicate a change in status of one of its ports/links. The link state update (01) LSPDU 300 is directed to all known network devices, e.g., those identified within its link state protocol database 207, and an acknowledgement message is required from all network devices receiving the link state update (01) LSPDU 300.
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> * * *
>
> Associated with each LSPDU type is a unique set of link state protocol information provided in link state protocol information field 312, which is utilized by controller 206 and link state protocol database 207 to dynamically manage the active topology of the layer 2 data network.

Id. at 7:3–12, 8:10–17 & 8:25–29. Further, the specification discloses monitoring for incoming "link state protocol data units" and, upon receipt, the link state database is updated to reflect the new information. *See id.* at Fig. 5; *see also id.* at 9:33–10:7 (referring to Figure 5).

The specification also discloses, however, that "[i]f an acknowledgement is not received from a known network device, the controller updates the record in the link state protocol database associated with the non-responding network device noting that the device/link may be unreliable or non-existent." *Id.* at 10:38–43. Thus, even an absence of receiving information can itself be information. *See id.*

Claim 13 of the '086 Patent recites (emphasis added):

> 13. A network device comprising:
>
> a link state protocol database including a plurality of records, each record including link state information;

> a controller coupled to the link state protocol database, the controller to *dynamically manage* an active topology of a network based on network topology information including the link state information; and
>
> a filtering database coupled to the controller, the filtering database including a plurality of filtering records denoting at least distance vector information for a corresponding plurality of communication links of the data network.

On balance, nothing in the word "dynamically" or the surrounding claim language demands that management occur at a particular moment in time, such as upon receiving information. Instead, the word "dynamically" in this context refers more generally to an ability to consider changes that occur in a network while the network is in operation. *See* Dkt. No. 69, Ex. L, *The Authoritative Dictionary of IEEE Standards Terms* 346 (7th ed. 2000) ("Pertaining to an event or process that occurs during computer program execution; for example, dynamic analysis, dynamic binding. *Contrast*: static); *see also id.*, Ex. H, *Microsoft Press Computer Dictionary* 120 (1991) ("An adjective used to describe events or processes that occur immediately and concurrently as opposed to those planned for in advance or reacted to after the fact."); *id.*, Ex. J, *Microsoft Press Computer Dictionary* 165 (3d ed. 1999) (similar).

Finally, although Plaintiff proposes that no construction is necessary, "some construction of the disputed claim language will assist the jury to understand the claims." *See TQP Dev., LLC v. Merrill Lynch & Co., Inc.*, No. 2:08-CV-471, 2012 WL 1940849, at *2 (E.D. Tex. May 29, 2012) (Bryson, J.); *see also Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1348 (Fed. Cir. 2010) ("The terms, as construed by the court, must ensure that the jury fully understands the court's claim construction rulings and what the patentee covered by the claims.") (citation and internal quotation marks omitted). At the August 5, 2015 hearing, Plaintiff was amenable to using the word "update" in place of the word "manage." In addition, the word "monitor" is appropriate and is consistent with the specification, albeit with the understanding that monitoring

does not require, for example, affirmatively communicating. *See* '086 Patent at 9:37–39 ("controller 206 monitors I/O ports 202 and 204 for receipt of management data units") & 10:28–31 ("At block 604, the network device monitors the I/O ports and their associated port state information table(s), for change in the status of the ports."); *see also id.* at Fig. 6. Instead, the specification contemplates that monitoring can include merely listening. *See id.*

The Court therefore hereby construes **"dynamically manage"** to mean **"monitor and update based on new information."**

C. "an active topology of a network"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "topology in which at least some of the nodes are active"	"real-time state of all connections within the network"

Dkt. No. 74, Ex. A at 5. The parties submit that this term appears in Claim 13 of the '086 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "all network nodes and communication links that can be used in transferring data within the network."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court therefore hereby construes **"an active topology of a network"** to mean **"all network nodes and communication links that can be used in transferring data within a network."**

VI. DISPUTED TERMS IN U.S. PATENT NO. 6,697,325

The '325 Patent, titled "System, Device, and Method for Expediting Reconvergence in a Communication Network," issued on February 24, 2004, and bears a filing date of December 7, 1999. The Abstract of the '325 Patent states:

> In a system, device, and method for expediting reconvergence in a communication network, a first indication of a communication link failure prompts a node to compute new routes. Upon receiving the first indication of the communication link failure, the node determines the nodes that are associated with the failed communication link. The node disassociates the failed communication link from all such nodes, and computes new routes. Subsequent indications of the same communication link failure are ignored.

A. "expediting reconvergence in a communication network"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term is claim limitation. If the Court disagrees, NNPT believes the term does not require construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "rerouting messages in response to changes in a communication network"	"initiating and executing the determination of alternate routes around a failed communication link ('reconvergence') in response to only the first link state protocol message indicating the communication link failure" Otherwise, Indefinite under 112; the term "expediting" has no comparative baseline.

Dkt. No. 74, Ex. A at 5–6. The parties submit that this term appears in Claims 10 and 16 of the '325 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "Preamble not limiting, no need to construe term."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court therefore finds that the preamble term **"expediting reconvergence in a communication network"** is **not limiting**.

B. "a first indication"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "an indication"	"an initial (i.e., first in time) indication"

Dkt. No. 74, Ex. A at 6. The parties submit that this term appears in Claims 10 and 16 of the '325 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "Plain meaning (Expressly reject Defendants' 'initial' and 'first in time')."

(1) The Parties' Positions

Plaintiff cites the opinion of its expert and also argues that nothing in the intrinsic evidence supports the temporal limitation proposed by Defendants. Dkt. No. 69 at 14. Plaintiff urges that "[t]he designation of 'first indication' and 'second indication' is only intended to

differentiate the two indications of a communication link failure, not the absolute timing of those indications." *Id.*

Defendants respond that Plaintiff "offer[s] the remarkable argument that 'first' really means 'any,'" which Defendants argue is inconsistent with the specification "us[ing] the terms 'first indication' and 'subsequent indication' when referring to indications referencing the same communication link failure." Dkt. No. 72 at 12 (citing '325 Patent at 3:1–7, 3:19–20 & 4:18–28).

Plaintiff's reply brief does not address this disputed term. *See* Dkt. No. 73.

At the August 5, 2015 hearing, Defendants submitted that the '325 Patent emphasizes the advantages of avoiding multiple updates. *See* '325 Patent at 3:24–30. Plaintiff responded that "first indication" can refer to the first *selected*, such as from a "cache," rather than necessarily the first *received*. *See, e.g., id.* at 6:16–20 ("cache 304 is used for storing link status information relating to communication link failures").

(2) Analysis

Claims 10 and 16 of the '325 Patent recite (emphasis added; formatting modified):

> 10. A device for expediting reconvergence in a communication network, the device comprising
>
> routing logic operably coupled to receive a *first indication* of a communication link failure from a first supporting node, determine a second supporting node that is associated with the failed communication link, disassociate the failed communication link from the first supporting node and the second supporting node, and compute new routes accounting for the disassociation of the failed communication link from the first supporting node and the second supporting node,
>
> wherein the routing logic is operably coupled to use a topology database to determine that the second supporting node is associated with the failed communication link, the topology database including a list of communication links associated with each of a plurality of nodes.
>
> * * *
>
> 16. The device of claim 10, wherein the routing logic is operably coupled to receive a *second indication* of the communication link failure from the second

> supporting node, determine that the *second indication* is related to the *first indication*, and discard the *second indication* without computing new routes.

The specification suggests that, in particular embodiments, there may be temporal separation between indications of link failure:

> When a communication link fails, the various nodes in the communication network interoperate to route protocol messages around the failed communication link. This is often referred to as "reconvergence." Each node that supports the failed communication link (referred to hereinafter as a "supporting" node) sends an LSA protocol message to the other nodes in the communication network identifying the failed communication link. Each supporting node may detect the communication link failure at a different time, and therefore each supporting node may send the LSA protocol message at a different time. Each node updates its topology database to reflect the failed communication link, based upon the link status information from the LSA protocol messages, and uses the Dijkstra shortest path algorithm in order to compute new routes.

'325 Patent at 1:44–58.

> It is likely that node A 102 and node B 106 will detect the communication link failure at different times, and therefore node A 102 will send an LSA protocol message at a different time than node B 106.

Id. at 5:16–20; *see, e.g.*, *id.* at 3:5–7 ("Subsequent indications of the same communication link failure are ignored."); *id.* at 3:19–20 ("The node ignores any subsequent LSA protocol messages relating to the same communication link failure."); *id.* at 4:4–7 ("The node ignores any subsequent LSA protocol messages that are related to the same communication link failure in order to prevent unnecessary and redundant iterations of the Dijkstra shortest path algorithm."); *id.* at 4:18–24 ("When the node receives a subsequent LSA protocol message, the node compares the link status information in the subsequent LSA protocol message to the link status information in the cache in order to determine whether the subsequent LSA protocol message is related to the same communication link failure as the first LSA protocol message."); *id.* at 5:38–48 (similar).

Nonetheless, Defendants have not adequately justified introducing an "initial" or "first in time" limitation, particularly as to Claim 10 of the '325 Patent, which recites only a "first

indication" and not any other indication. Further, no temporal limitation is evident based on the word "first" because "[t]he use of the terms 'first' and 'second' is a common patent-law convention to distinguish between repeated instances of an element or limitation." *3M Innovative Props. Co. v. Avery Dennison Corp.*, 350 F.3d 1365, 1371 (Fed. Cir. 2003). Finally, Defendants have not demonstrated that the stated "advantage[s]" of "only comput[ing] new routes once for each communication link failure" and achieving reconvergence "upon processing the first LSA protocol message indicating the communication link failure" are limitations of the disputed term at issue. *See* '325 Patent at 3:24–30; *see also id.* at 2:17–20 ("[I]t is desirable to reduce the number of times new routes are computed, *preferably* once per communication link failure.") (emphasis added).

The Court therefore hereby expressly rejects Defendants' proposed construction. No further construction is necessary. *See U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) ("Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement. It is not an obligatory exercise in redundancy."); *see also O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) ("[D]istrict courts are not (and should not be) required to construe every limitation present in a patent's asserted claims."); *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 2010) ("Unlike *O2 Micro*, where the court failed to resolve the parties' quarrel, the district court rejected Defendants' construction.").

The Court accordingly hereby construes **"first indication"** to have its **plain meaning**.

C. "supporting node"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "node that supports the failed communication link"	"a node positioned at the end of and directly connected to a communication link, and which supports the link"

Dkt. No. 74, Ex. A at 7. The parties submit that this term appears in Claims 10 and 16 of the '325 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "node that supports a communication link."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court therefore hereby construes **"supporting node"** to mean **"node that supports a communication link."**

D. "associated with the failed communication link"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "logically connected to the failed communication link"	"directly connected to the failed communication link"

Dkt. No. 74, Ex. A at 7. The parties submit that this term appears in Claims 10 and 16 of the '325 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "directly connected to the failed communication link."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court accordingly hereby construes **"associated with the failed communication link"** to mean **"directly connected to the failed communication link."**

E. "compute new routes accounting for the disassociation of the failed communication link from the first supporting node and the second supporting node"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "compute new message routes, taking into account the disassociation of the logical connection of the failed communication link to both the first supporting and the second supporting node"	"perform a one-time determination of alternative paths only in response to the first indication of a failed communication link, which do not include the failed link"

Dkt. No. 74, Ex. A at 7–8. The parties submit that this term appears in Claims 10 and 16 of the '325 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "Plain meaning (Expressly reject Defendants' 'one-time determination')."

(1) The Parties' Positions

Plaintiff cites the opinion of its expert and also argues that "Defendants' proposed construction . . . incorporates the limitations of dependent claim 16 of the '325 patent into independent claim 10." Dkt. No. 69 at 16.

Defendants respond that Plaintiff's proposed construction "ignores the fact that the claim is directed to 'a device for expediting reconvergence,' and strips Claim 10 of what purportedly made the claimed invention novel over the prior art." Dkt. No. 72 at 15.

Plaintiff's reply brief does not address this disputed term. *See* Dkt. No. 73.

At the August 5, 2015 hearing, Defendants reiterated that the claimed invention requires computing new routes only once. *See* '325 Patent at 3:24–30. Plaintiff responded by reiterating claim differentiation as to Claim 16. To whatever extent Defendants are arguing that Claim 10 would not be novel without a "one-time determination" limitation, Plaintiff argued, such a novelty analysis is not a proper part of these claim construction proceedings.

(2) Analysis

As a threshold matter, the opinion of Plaintiff's expert as to this disputed term is, in full, as follows:

> It is further my opinion that that [*sic*] one skilled in the art at the relevant time would have understood the plain and ordinary meaning of the term "compute new routes accounting for the disassociation of the failed communication link from the first supporting node and the second supporting node" to be "compute new message routes, taking into account the disassociation of the logical connection of the failed communication link to both the first supporting node and the second supporting node." *See* Ex. L (defining "route").

Dkt. No. 69, Ex. F, 6/9/2015 Mitzenmacher Decl. at ¶ 19. Because this opinion contains no analysis, the opinion of Plaintiff's expert is not probative. *Phillips*, 415 F.3d at 1318

("conclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court").

On one hand, the '325 Patent states that "[o]ne advantage of the present invention is that the node only computes new routes once for each communication link failure." '325 Patent at 3:24–26. Likewise, the specification discloses that "[a]nother advantage of the present invention is that reconvergence is achieved upon processing the first LSA [(link state advertisement)] protocol message indicating the communication link failure." *Id.* at 3:27–29; *see id.* at 4:1–3 ("computing new routes once per communication link failure").

On the other hand, Claims 10 and 16 of the '325 Patent recite (emphasis added; formatting modified):

> 10. A device for expediting reconvergence in a communication network, the device comprising
>
> routing logic operably coupled to receive a first indication of a communication link failure from a first supporting node, determine a second supporting node that is associated with the failed communication link, disassociate the failed communication link from the first supporting node and the second supporting node, and *compute new routes accounting for the disassociation of the failed communication link from the first supporting node and the second supporting node*,
>
> wherein the routing logic is operably coupled to use a topology database to determine that the second supporting node is associated with the failed communication link, the topology database including a list of communication links associated with each of a plurality of nodes.
>
> * * *
>
> 16. The device of claim 10, wherein the routing logic is operably coupled to receive a second indication of the communication link failure from the second supporting node, determine that the second indication is related to the first indication, and discard the second indication without computing new routes.

Because Claim 16 recites "discard[ing] the second indication without computing new routes," the doctrine of claim differentiation weighs against including Defendants' proposed "one-time determination" limitation in the construction of the disputed term in Claim 10. *See*

Phillips, 415 F.3d at 1315 ("the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim"); *see also Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.3d 1225, 1233 (Fed. Cir. 2001) ("Claim differentiation, while often argued to be controlling when it does not apply, is clearly applicable when there is a dispute over whether a limitation found in a dependent claim should be read into an independent claim, and that limitation is the only meaningful difference between the two claims."). Further, whereas the Background of the Invention suggests that one-time determination is "preferabl[e]," merely reducing the number of determinations is also beneficial. *See* '325 Patent at 2:17–20 ("[I]t is desirable to reduce the number of times new routes are computed, *preferably* once per communication link failure.") (emphasis added).

Although Defendants urge that "Plaintiff's proposed construction does nothing to distinguish over the admitted prior art, which would compute new message routes every time an LSA message was received," a novelty analysis is generally not part of claim construction. *See Phillips*, 415 F.3d at 1327 ("we have certainly not endorsed a regime in which validity analysis is a regular component of claim construction").

The Court therefore hereby expressly rejects Defendants' proposed construction. No further construction is necessary. *See U.S. Surgical*, 103 F.3d at 1568; *see also O2 Micro*, 521 F.3d at 1362; *Finjan*, 626 F.3d at 1207.

The Court therefore hereby construes **"compute new routes accounting for the disassociation of the failed communication link from the first supporting node and the second supporting node"** to have its **plain meaning**.

F. "topology database"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "database storing information related to network topology"	"a database indicating all nodes in a communication network and their respective associated communication links"

Dkt. No. 74, Ex. A at 8–9. The parties submit that this term appears in Claims 10 and 16 of the '325 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "a database indicating all nodes in a communication network and their respective associated communication links."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court therefore hereby construes **"topology database"** to mean **"a database indicating all nodes in a communication network and their respective associated communication links."**

G. "a second indication"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "an indication other than the first indication"	"a subsequent (i.e., second in time) indication"

Dkt. No. 74, Ex. A at 9. The parties submit that this term appears in Claim 16 of the '325 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "Plain meaning (Expressly reject Defendants' 'subsequent' and 'second in time')."

(1) The Parties' Positions

Plaintiff cites the opinion of its expert and also reiterates that "[t]he designation of 'first indication' and 'second indication' is only intended to differentiate the two indications of a communication link failure, not the absolute timing of the indication." Dkt. No. 69 at 19.

Defendants respond that "any other interpretation is contrary to the claim itself (because the second indication is discarded), the specification (at Fig. 2, step 206, and 5:49–64), and common sense." Dkt. No. 72 at 17.

Plaintiff's reply brief does not address this disputed term. *See* Dkt. No. 73.

At the August 5, 2015 hearing, the parties argued this disputed term together with the term "first indication," addressed above. Plaintiff also argued that the claimed device need not necessarily react to the first indication at the time the first indication is received.

(2) Analysis

The specification repeatedly refers to a "subsequent" indication. *See, e.g.*, '325 Patent at 3:5–7, 3:19–20, 4:4–7, 4:18–24 & 5:38–48 (similar). The disputed term at issue, however, is "second" rather than "subsequent." For the same reasons discussed above as to the term "first indication," no temporal limitation is evident. *See 3M*, 350 F.3d at 1371. Instead, Claim 16 demonstrates merely that both the first indication and the second indication must exist when "determin[ing] that the second indication is related to the first indication."

The Court therefore hereby expressly rejects Defendants' proposed construction. No further construction is necessary. *See U.S. Surgical*, 103 F.3d at 1568; *see also O2 Micro*, 521 F.3d at 1362; *Finjan*, 626 F.3d at 1207.

The Court accordingly hereby construes **"a second indication"** to have its **plain meaning**.

H. "without computing new routes"

In their July 6, 2015 Joint Claim Construction Chart, the parties confirmed that they have reached agreement for a construction of this term. *See* Dkt. No. 74 at 9. The parties' agreement in this regard is reflected in Appendix A to this Claim Construction Memorandum and Order.

VII. DISPUTED TERMS IN U.S. PATENT NO. 7,664,123

The '123 Patent, titled "Generalized Virtual Router," issued on February 16, 2010, and bears a filing date of January 22, 2004. The Abstract of the '123 Patent states:

> A generalized virtual router is disclosed. A routing and switching apparatus includes a switching fabric and a matrix of switching and routing elements. At least some of the elements are interconnected by the switching fabric. A router control provides control for the switching fabric. The apparatus has both cross-connect and routing functionality.

A. "a switching fabric"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "a network topology that connects any input to any output" Alternatively: "a network topology in which routers and switches are interconnected for connecting any input to any output"	"a network topology in which individual routers and switches are interconnected for connecting any input to any output"

Dkt. No. 73 at 5; Dkt. No. 74, Ex. A at 9–10. The parties submit that this term appears in Claim 1 of the '123 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "a network topology in which routers and switches are interconnected for connecting any input to any output."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court therefore hereby construes **"a switching fabric"** to mean **"a network topology in which routers and switches are interconnected for connecting any input to any output."**

B. "a matrix of switching elements and routing elements"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "switches and routers interconnected with each other"	"a multi-row and multi-column collection of interconnected switching elements and routing elements within a fabric" A "routing element" is "an element running routing protocols." A "switching element" is "a circuit element that electronically connects an input port to an output port."

Dkt. No. 74, Ex. A at 10. The parties submit that this term appears in Claim 1 of the '123 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "Plain meaning (Expressly reject Defendants' requirement of rows and columns)."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court accordingly hereby expressly rejects Defendants' proposal of "multi-row and multi-column" and construes **"a matrix of switching elements and routing elements"** to have its **plain meaning**.

C. "a CLOS architecture"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "a multi-stage switching network"	"a non-blocking (i.e., connection always available) architecture in which the total number of internal ports is less than the product of the number of inputs times the number of outputs"

Dkt. No. 74, Ex. A at 10–11. The parties submit that this term appears in Claim 1 of the '123 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "a non-blocking architecture in which the total number of internal ports is less than the product of the number of inputs times the number of outputs."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court therefore hereby construes **"a CLOS architecture"** to mean **"a non-blocking architecture in which the total number of internal ports is less than the product of the number of inputs times the number of outputs."**

D. "cross-connect functionality"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "the ability to switch a signal from any input port to any output port within a switching fabric"	"a switch fabric that can switch a signal from any N transmission lines to another N transmission lines"

Dkt. No. 74, Ex. A at 11. The parties submit that this term appears in Claim 1 of the '123 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "the ability to switch a signal from any input port to any output port."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court therefore hereby construes **"cross-connect functionality"** to mean **"the ability to switch a signal from any input port to any output port."**

VIII. DISPUTED TERMS IN U.S. PATENT NO. 8,607,323

The '323 Patent, titled "Method for Providing Media Communication Across Firewalls," issued on December 10, 2013, and bears an earliest priority date of August 17, 2002. The Abstract of the '323 Patent states:

> The present invention supports a method for transmitting information packets across network firewalls. A trusted entity is provisioned with an address designation for a pinhole through the firewall during setup of a communication session between two communication devices. This pinhole address is used

> throughout the communication session between the two communication devices to transmit information packets onto and out of the communication network. Information packets addressed to the communication device inside the firewall are received by the trusted entity, which replaces address header information in the information packet with the address for the pinhole. The information packet is routed to the pinhole where it passes onto the network for routing to the communication device inside the firewall. Information packets transmitted from the network are also routed to the trusted entity for routing toward the communication device outside the firewall.

A. "firewall"

In their July 6, 2015 Joint Claim Construction Chart, the parties confirmed that they have reached agreement for a construction of this term. *See* Dkt. No. 74 at 9. The parties' agreement in this regard is reflected in Appendix A to this Claim Construction Memorandum and Order.

B. "a media proxy router"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "a network entity that performs IP address translation on signaling/media information packets"	"a network entity (e.g., server, workstation, or gateway-type hardware)"

Dkt. No. 74, Ex. A at 11–12. The parties submit that this term appears in Claim 14 of the '323 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "a network entity that performs IP address translation on signaling/media information packets."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court accordingly hereby construes **"a media proxy router"** to mean **"a network entity that performs IP address translation on signaling/media information packets."**

C. "an information packet"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "a packet containing data"	"a collection of data carrying a media or signaling message"

Dkt. No. 74, Ex. A at 12. The parties submit that this term appears in Claim 14 of the '323 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "Plain meaning (Expressly reject requiring 'media or signaling message')."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court accordingly hereby expressly rejects Defendants' proposal of "media or signaling message" and construes **"an information packet"** to have its **plain meaning**.

D. "a first destination address designation"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "a label designating a first address to which data can be sent"	"the address of the Media Proxy Router"

Dkt. No. 74, Ex. A at 12–13. The parties submit that this term appears in Claim 14 of the '323 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "Plain meaning (Expressly reject Defendants' proposal)."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court accordingly hereby expressly rejects Defendants' proposed construction and construes **"a first destination address designation"** to have its **plain meaning**.

E. "correlate the first destination address designation with a second address designation using a data element stored in the media proxy router"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "establish relationships between addresses (viz. the first destination address and the second address) based on an element stored at the media proxy router"	"look-up the pinhole address (the second destination address) corresponding to the first destination address, and replace the first destination address of the information packet with the second address"

Dkt. No. 74, Ex. A at 13. The parties submit that this term appears in Claim 14 of the '323 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "using a data element stored in the media proxy router to look up a second destination address corresponding to the first destination address."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court accordingly hereby construes **"correlate the first destination address designation with a second address designation using a data element stored in the media proxy router"** to mean **"using a data element stored in the media proxy router to look up a second destination address corresponding to the first destination address."**

F. "an address of a pinhole in the firewall"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
NNPT does not believe this term requires construction, as it is used in accordance with its plain and ordinary meaning to one of ordinary skill in the art. If the Court believes this term requires construction, the Court should construe the term to mean: "location (i.e. address in the network) of a pinhole in the firewall"	"Pinhole" is a communication port that the network entity designates for sending information packets out of the network and also receiving information packets (e.g. responses) into the network during a communication session"

Dkt. No. 74, Ex. A at 13–14. The parties submit that this term appears in Claim 14 of the '323 Patent. *Id.*

Shortly before the start of the August 5, 2015 hearing, the Court provided the parties with the following preliminary construction: "The term 'pinhole' means: 'a communication port, also referred to as an IP port, that the network entity designates for sending information packets out of the network and also receiving information packets (e.g. responses) into the network during a communication session[.]' No further construction necessary."

At the August 5, 2015 hearing, the parties stated they had no objection to the Court's preliminary construction.

The Court accordingly hereby construes **"pinhole"** to mean **"a communication port, also referred to as an IP port, that the network entity designates for sending information packets out of the network and also receiving information packets (e.g. responses) into the network during a communication session."**

IX. CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patents-in-suit.

The parties are ordered that they may not refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

SIGNED this 14th day of August, 2015.

ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE

APPENDIX A

Term	Parties' Agreement
"the data network" ('086 Patent, Claim 13)	This refers to the same network as set forth earlier in the claim (i.e., "a network").
"related to the first indication" ('325 Patent, Claim 16)	This term should be construed to mean "related to the same communication link failure as the first indication."
"without computing new routes" ('325 Patent, Claim 16)	"without performing a second determination of alternative paths around the failed communication link; the alternative paths are determined only in response to the first received indication"
"firewall" ('323 Patent, Claim 14)	"a barrier device that blocks unauthorized communication to a network"

Dkt. No. 58 at 2; Dkt. No. 74 at 9 & 11.